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[For information on the useful plants of Iran and Iraq, many of which are also used in Syria, see 35: Hooper and Field, MA1 Iran, category 116. --Analyst]

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MALARIA, IRRIGATION, AND SOIL EROSION IN CENTRAL SYRIA

NORMAN N. LEWIS

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THIS study of the Selemiya region of central Syria had its origin in a modest wartime public-health program. Hundreds of patients suffering from malaria in the villages of this district were regularly treated by a mobile clinic, and it soon became obvious that this work had to be supplemented if not replaced by swamp drainage and other measures of malaria control. The necessary investigations showed that soil erosion in the hills in the east of the region was partly responsible for the swamps on the plain. The swamps themselves were frequently associated with ancient irrigation works. Thus various problems of the region—agricultural, social, and medical—were closely linked in origin and development. It was found that attempts to solve any one of them alone could not be more than partially successful, and the conclusion reached was that the ideal solution would have to be radical, comprehensive, and on a large-scale regional basis.

THE LANDSCAPE

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The greater part of the governmental subdistrict (*nahiya*) of Selemiya is a plain. Bounding it sharply on the west are low plateaus, capped by a level bed of basalt a few feet thick; to the southeast are ranges of hills, part of the Palmyrene group, to which the local collective name of Jebel Bil'as may be given.

[361] 133 312

The ground slope over much of the region is toward the town of Selemiya; drainage from an area of 620 square miles converges on the low flat land around the town. Because of the continuous subsurface flow, a perennial stream rises at Ain ez Zerqa, to flow 12 miles to the west to join the Orontes. All other perennial streams, however, are only a few hundred or thousand yards long and are used for irrigation; most of them rise in artificial underground channels. Most of the watercourses are wadis, dry or nearly dry for much of the year. In the hills these are steep, V-shaped valleys, on the plain generally wide, shallow, gravel-filled channels in gentle, open valleys.

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Figure 2 gives a simplified indication of the configuration. Hydrologically, the strata may be simply grouped into the Cretaceous limestones

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135 [311]

FIG. 1—The Salamiya area in its general setting. The hills are frequently given the collective name of Jebel Bil'as. Isohyets are from Charles Combier: Aperçu sur les climats de la Syrie et du Liban, avec carte au millionième des plains et vents, Délégation Générale de France au Levant, Beirut, 1945. Spelling of the place names here, and in the text in general follows the (British) Permanent Committee on Geographical Names.

of the hills and the Eocene-Oligocene marl of the plain. The limestones are predominantly pervious dolomitic limestones, separated by more or less impervious beds of flint and marl. Winter rainfall runs off in the wadis or soaks into the ground and either is soon discharged at a lower level by temporary springs or seeps slowly toward the plain, assisted by the dip of the strata.

The marl of the plain is in its unaltered state impermeable, but usually it has been affected to a considerable depth by the percolation of water through cracks and fissures. In this way calcium carbonate and silica are deposited to depths of as much as 50 feet, and the whole character of the rock is altered.[1] It becomes crumbly, permeable, and water-bearing. Above this layer of rock a hardpan develops, ranging in thickness from a few inches to four feet, which is due to the concentration by capillary action of calcium carbonate and silica.

The region is one where the desert merges into the sown. The rainfall

[1] L. Dubertret: Lithological Map of the Eastern Border of the Mediterranean, 1:500,000, with notes translated by W. B. Fish [i.e. Fisher], Fighting French Delegation General in the Levant, Geological Section, Beirut, 1945.

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IS ONE WHERE DESERT MERGES INTO THE SOWN. THE REGION THE RAINFALL

regimen is Mediterranean in type, practically all the precipitation falling in
132 winter, the summer being characterized by drought and great heat. In the east the rainfall is sporadic and unreliable and in most years is less in total quantity than in the west. Selemiya has a mean annual rainfall of 344 millimeters (13.5 inches). On the west-facing slopes of Jebel Bil'as rainfall is relatively heavy, though highly variable, and it permits tree growth. The
311 present eastern limit of close agricultural settlement and of permanent unirrigated cultivation is near the 200-millimeter isohyet;[2] it was approximately the same in Romano-Byzantine times. Any further extension of agriculture to the east would mean great risk of crop failure and of increased soil erosion by wind and water.

134 In the cultivated west the soil is heavy and clayey, but farther to the east it is light and friable, with a high sand content and practically no humus. In Jebel Bil'as the soil is intermediate between these two types, liable to erosion by wind in summer and water in winter.

137 Over the greater part of the region the two main elements in the natural
132 vegetation are low xerophilous scrub[2] and ephemeral grasses which appear
[233] in early spring and wither away in summer. The roots and rootlets of both the permanent scrub and the annual vegetation help hold the soil in place. In Jebel Bil'as these types of vegetation are well developed, and the hills are favorite spring pasture grounds for the sheep of peasants and Bedouins. Isolated trees grow in the Palmyrene ranges far to the east throughout the area within the 200-millimeter isohyet, and even just to the east of it, in country believed to have a mean annual rainfall of less than 200 millimeters (7.9 inches). On the northwestern slopes of Jebel Bil'as tree growth is more abundant. Nothing demonstrates better the positive rainfall anomaly of the hills as compared with the arid plains to the north and south.

137 At the present time the landscape of Jebel Bil'as is at the best parklike, the trees being scattered, except in the valleys, where clumps of three or four grow together. Few trees are taller than 20 feet. The *Pistacia* genus is represented by *P. terebinthus* (probably *P. palaestina*) and *P. vera* (the pistachio tree). The wood of these two trees, hard and slow-burning, is much valued as a fuel. Scrub oak also occurs, and in wadi bottoms thick-leaved evergreens. Shrubs and herbaceous plants are scattered everywhere.

Irrigation

241 The long summer drought makes irrigation necessary for most crops

113 [2] A full account is given by M. Zohary: Geobotanical Analysis of the Syrian Desert, *Palestine Journ. of Botany*, Jerusalem Ser., Vol. 2, 1940, pp. 46-56.

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241 except wheat and barley, and around each village is an area of irrigated land on which vegetables, fruit, cotton, maize, fodder, and grain are grown. The configuration of the ground and the peculiar properties of the marl make possible the use of subsurface water for irrigation, and past and present inhabitants have taken full advantage of these conditions.

312 [406 379] Water is distributed to irrigation ditches from wells, surface watercourses, or *foggaras* (foqqaras).[2] It is lifted from wells either by pumps or by chains of buckets geared to an animal-turned wheel. From wadis which have water in part of their course for some or all of the growing season it is taken by a gravity canal. The stream is roughly dammed and the water led, at a gentler angle than that of the watercourse, along the valley side until it reaches a suitable level for watering the ground below. Neither of these methods is of great importance as compared with foggaras, which supply most of the irrigated lands of the area.

A foggara, known elsewhere as *qanat*, *kariz*, or "chain of wells," is an underground conduit. The method has been used since ancient times in many parts of the Middle East. Foggaras are found in several regions of Syria and are especially numerous in the Selemiya region. Figure 4 shows the general principle by which the water-bearing layer is tapped by the gallery or subsurface canal. The most copious supplies of water are provided when the canal is driven back from a spring along the underground "stream" that feeds it. A depression that is a natural gathering ground of water is often utilized, or a wide area may be tapped by the construction of several converging galleries, as in Moufaqqar. The gradient of the gallery is sufficient to induce water flow, but it is less steep than the general slope of the ground, so that water is conducted gradually to the surface, usually to low-lying flat land suitable for irrigation. The vertical shafts, like large wells, which connect the underground canal to the surface, were used during the digging as passages of ingress and egress and serve the same purpose now when the canals are cleaned of mud, debris, and vegetation; hence they are always surrounded with mounds of accumulated spoil. Lower down, as the canal comes to the surface, it flows between steep banks, which gradually become less high, until the water is flowing at ground level. Often the hardpan forms a natural roof to the gallery.

In length, depth, and water flow the foggaras differ greatly. One canal

[2] Foggaras in North Africa have been described and illustrated in the *Geographical Review*. See Jules Blache: Modes of Life in the Moroccan Countryside, Vol. 11, 1921, pp. 477–502, references on pp. 488 and 491; R. H. Forbes: The Transsaharan Conquest, Vol. 33, 1943, pp. 197–213, reference on p. 199—Edit. Note.

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312 locally by the area of land each irrigates. One canal irrigates 136 acres near Selemiya town; many supply between 20 and 60 acres; and the smallest suffices only for 2.4 acres (near Tell et Tout). The larger canals are nearly all in the low-lying basinlike plain around the town of Selemiya; most of the smaller ones lie toward the northeast. A canal which supplies 68 acres of land in Selemiya delivers 8.8 gallons a second (measured at lowest water level, in October, 1945). There are today in the caza 125 such canals which are in working order and an unknown number which are not in use. These 125 canals irrigate a total of 3060 acres. The map of Moufaqqar (Fig. 3) shows typical modifications and elaborations of the foggara.[4]

History

175 312 At Misherfe-Qatna, where a modern village occupies the site of a Hittite fortress-city, 18 miles southwest of Selemiya, a foggara-like canal supplied the town in the second millennium before Christ.[5] Most of those in our region date from a much later period, and probably more were constructed from the second century of our era to the sixth than at any other time. Many can be dated by the details of their construction, or by their close association with ruins, or, occasionally, by inscriptions. During these centuries the Selemiya region was a prosperous agricultural district, well supplied with irrigation water. The Roman legacy was added to in the early period of Arab rule,[6] when Selemiya was well known as a pleasant country town, the public buildings of which, especially the baths, rivaled those in great Arab cities. Descendants of the Abbasid Prince Saleh ibn Ali ibn Abdullah ibn Abbas ibn il Motalib lived in Selemiya, and, according to Ya'qubi, writing in 891, Abdullah, the son of Saleh, "conducted thither a stream of water, and dug wells in the land, whereby the saffron grows plentifully." For a period after 893 the town became a center of the Ismaili sect, a circumstance which brought it importance then, and which was to affect the region powerfully a thousand years later.

Throughout the Arab period the water of Selemiya remained famous. As late as the fourteenth century Ahmed the Secretary praised Selemiya as "a charming and rich town, with abundant water and trees. Water comes

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[4] See the maps of Qdeym for typical modifications and elaborations of the foggara. Plans III and IV in the atlas volume of R. Mouterde and A. Poidebard: Le limes de Chalcis: Organisation de la steppe en Haute Syrie romaine (Bibliothèque Archéologique et Historique, Vol. 38), 2 vols. (text and atlas), Paris, 1945. See review elsewhere in this number of the *Geographical Review*.

[5] Mesnil du Buisson: Le site archéologique de Michrifé-Qatna, Paris, 1935.

[6] Information on the Arab period is drawn largely from the article "Salamiya" in the Encyclopaedia of Islam and from Guy le Strange: Palestine under the Moslems, Boston and New York, 1890. The quotation from Ya'qubi is from Le Strange, p. 528.

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to it in aqueducts."[7] Today there are 39 foggaras in use on the lands of Selemiya, and there are also some that are unused. Very few of the foggaras are modern, so that we may legitimately suppose about the same area to have been irrigated around the town in the Arab period as at present—1300 acres. The water was renowned for its purity, as it is today, and Hama, 18 miles away on the muddy Orontes, drank Selemiya water brought to the city by a foggara from Ain ez Zerqa. Abu el Fida (1273–1331), geographer and king of Hama, caused this canal to be cleaned, and two centuries later the following inscription from a Hama mosque shows that it was repaired or cleaned again:[8]

On fifteenth Gumada I 901 [March 2, 1496] was promulgated the princely, august decree of our master, the great emir, the chief, the governor general, Sayfiddin el Asrafi Qansuh as Sarifi as Sami, governor general of the province of Hama (may God glorify his victory!), prohibiting the diversion of moneys to the profit of the exchequer (may it ever prosper!) and of others, from the funds intended for the aqueduct of Selemiya, and ordering that nothing should be taken from this fund except the wages of the workmen laboring on it. Whoever should renew these exactions, let him be accursed, and may both his father and his Prophet testify against him on judgment day.

By this time the prosperous days of Selemiya were nearly over. Scattered references show that the frontier of settlement and regular agriculture in the region was retreating westward. Tamerlane ravaged all Syria in 1400, and in 1516 the country fell to the Turks. During the next four centuries Syria slowly decayed. In the seventeenth and eighteenth centuries several great Bedouin tribes moved north out of Arabia into the Syrian Desert and its peripheral regions. After this the steppe and the desert were almost completely beyond the control of the Turkish government, and the frontiers of law, order, and settled life retreated from the edges of these uncontrolled territories. The valuable journals of some English merchants[9] who traveled through the eastern part of our region at the end of the seventeenth century show that, except for Bedouins, it was then practically deserted. The Ismaili inhabitants, according to their descendants' tradition, had left soon after

[7] See [Maurice] Gaudefroy-Demombynes: La Syrie à l'époque des Mamelouks (Bibliothèque Archéologique et Historique, Vol. 3), Paris, 1923, pp. 77–78.

[8] This inscription is from the Great Mosque of Hama, where there are a number of Mameluke decrees, dealing particularly with trade and taxation. It is transcribed in French by Jean Sauvaget in *Bulletin d'Études Orientales de l'Institut Français de Damas*, Vol. 3, 1933, p. 6.

[9] "An Extract of the Journals of Two Several Voyages of the English Merchants of the Factory of Aleppo, to Tadmor, Anciently Call'd Palmyra," *Philos. Trans. Royal Soc. of London*, No. 218, Vol. 19, 1695, pp. 129–147. [Also in "Miscellanea Curiosa," Vol. 3, Containing a Collection of Curious Travels, Voyages, and Natural Histories of Countries, As They Have Been Delivered in to the Royal Society, 2nd edit., revised and corrected by W. Derham, London, 1727 (originally edited by Edmund Halley in 1708), pp. 120–159.]

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175 Tamerlane's invasion and were dispersed in other parts of Syria. Of 3200 villages once on the tax rolls of the pashalik of Aleppo, only 400 were said to be inhabited when Volney visited the country in the 1780's.[10] Such peasants as remained in the west of our region suffered from misgovernment, extortion, and raiding by Arab tribes.

166 In the second half of the past century a movement of recolonization [231] started that is still in progress. Sheep-raising Arab tribes began to settle in 361 villages; peasants came from the districts of Hama and Homs; immigrant 795 Circassians established four villages north of the town of Selemiya. The 312 frontier began to move outward once more, and old foggaras were cleaned 244 and repaired to give irrigation water once again. The strongest and most energetic immigrant group, the pioneers, were Ismaili, led back to their land of a thousand years ago by a group of powerful leaders. They settled first on the site of Selemiya itself about 1870. Today they number 14,000 or more, the majority living in the town and in villages to the east. They chose village sites where old foggaras could be brought into use, and for 75 years they have been extending the area of irrigated land by the restoration of old canals and the digging of new ones. In the last 20 years subsistence agriculture, depending largely on unirrigated grain farming, has given way before a more intensive commercial system, typified by the growing of irrigated cash crops such as seed onions and cotton on individualized holdings. The government has granted money for canal cleaning and swamp drainage. All these factors have contributed to extension of irrigation.

[657] 312, Some old canals, however, are still derelict. Some are so ruined that the [464] cost of repair would be prohibitive. Others may yet be brought back into use, but the will to work is weaker than in the early days of colonization, and now laborers' wages and other expenses have increased. Elsewhere village boundaries cut across old canals. Landowners of the village where a canal rises are loath to let the water flow away to the lands of another village, and thus ancient foggara systems which were perfectly related to the physical environment have been partly replaced by more local schemes of surface canal and ditch irrigation. For example, the canals that rise in Moufaqqar (Fig. 3) could irrigate land and drive mills in Moufaqqar, Tell et Tout, and Selemiya, but they have been so modified that the water is used only in Moufaqqar, and some of it runs to waste. A canal which rises in Tell et Tout but which formerly flowed on to Selemiya land has been blocked, so that its water irrigates Tell et Tout land only.

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113 [10] C.-F. Volney: Travels through Egypt and Syria, in the Years 1783, 1784 & 1785, translated from the French, 2 vols., New York, 1798; reference in Vol. 2, pp. 90-91.

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ing all this great quantity of Water was past away, so that in about two Hour's Riding we could hardly perceive that there had been any Rain at all. 731

That floods are an old phenomenon in Selemiya is suggested by two traditional theories, repeated by the inhabitants today, regarding the derivation of the place name. The first theory makes the essential form Sal-Miah, "a flood of water." The other was recorded by Yaqut in 1225:

> Ahmad ibn Yahyâ ibn Jâbir relates that there was a city in Syria, near Salamiyyah, called Al Mûtafikah [The Overturned], which was overwhelmed with all its inhabitants—all except one hundred souls. These left that place, and came and built one hundred houses, and they called the hamlet where they had made their houses Salâm Miyah (Peace for the Hundred), of which the people made Salamiyyah.[12]

As told today, the story is that the "overwhelming" agent was a flood.

The floods are greatly aggravated by soil erosion. Where the trees have been cut, the bushes torn up for fuel, and the grass overgrazed, and especially where slopes have been plowed, there the soil is eroded, and many slopes are now practically bare of soil and vegetation. In summer, soil is shifted by strong winds; in winter, rain washes it into gullies or wadis with steep, crumbling sides. These are tributary to the main streams which do so much damage when they reach the plain. The runoff from bare slopes is faster and more fully loaded than that from vegetated slopes. 731 134

Past and Present Vegetation Destruction

There is no doubt that the trees of Jebel Bil'as are a remnant of a denser and more extensive growth, though there are no very good grounds for the common assumption that all the Palmyrene ranges were forested in Roman days. The Tablet of Palmyra's fiscal laws of A.D. 137[13] gives reason to suppose that the locality may have furnished considerable quantities of wood and pistachio nuts, and in the same period Jebel Bil'as and neighboring ranges were used as grazing lands for sheep and horses.[14] The location of elaborate Romano-Byzantine foggara systems, as at Moufaqqar, directly in the paths of the floods might seem to indicate that, when the foggaras were constructed, floods were not as serious as they are now. 715 137 [72]

Old stumps and roots are found within and beyond the present wooded

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[12] Le Strange, *op. cit.*, p. 510.

[13] See J.-B. Chabot: Choix d'inscriptions de Palmyre, Paris, 1922, pp. 23-38.

[14] A. Poidebard: La trace de Rome dans le désert de Syrie.—Le limes de Trajan à la conquête arabe.—Recherches aériennes (1925-1932) (Bibliothèque Archéologique et Historique, Vol. 18), Paris, 1934; M. D. Schlumberger: Une campagne de fouilles au Djebel-el-Cheer en 1934, *Comptes Rendus de l'Acad. des Inscriptions et Belles-Lettres*, 1935, pp. 250-256. 113

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area. The English merchants who passed through the hills in 1678 noted that Jebel Bil'as was "covered with Trees, which, for the most Part, were the small *Pistacho*'s which the *Arabs* pickle with Salt; but eaten green, are good to quench Thirst"; and in 1691 they ascended a ridge to the east of Jebel Bil'as where the tree cover is now sparse and found it "cover'd on both Sides with great plenty of Turpentine-Trees," which grew "very thick and shady," several of them "loaded with a vast Abundance of a small round Nut."[25]

In spring, when surface water is available and the pasture is excellent, the hills are full of flocks; and several hundred thousand sheep, together with some goats and camels, pasturing each year for about three months cause much damage. Bedouin and peasant shepherd families burn vegetation on the spot, and woodcutters from Selemiya and the villages cut large amounts of the valued slow-burning pistachio wood. Vegetation has been destroyed in these ways since prehistoric times, but at certain periods the process has been quickened. Between 1914 and 1918 the Turkish authorities took great quantities of wood as fuel for the railroads. Local notables say that within living memory trees extended beyond Aquerbat; that is, several miles into the country now cultivated and treeless. The westernmost range, Jebel Shomariye, has lost all its woods, and a ridge to the east, which was "overgrown in some places" with terebinth trees in 1908,[26] is today bare. A new danger to the soil of the hills has resulted from the high grain prices now prevailing, the growing population pressure in the region, and the tendency of Arab tribes to settle down to agriculture; for now increasing areas of land on the western fringe of the hills are being plowed.

Malaria control on the plain must clearly be accompanied by soil conservation in the hills, and, ideally, both should be part of a larger scheme of regional rehabilitation. Such a scheme would cover, among other matters, irrigation, malaria control, vegetation conservation, farming practices, and grazing rights. It would mean radical changes in the region; it would require a large capital outlay; and it would necessitate government action of a scale and vigor practically unknown in Syria. It is impossible to discuss here whether such a scheme would be economically justifiable, or possible within the present social and political framework. One can only emphasize that some such comprehensive action must eventually be taken if the problems of the region are to be solved.

[25] "An Extract of the Journals" (*op. cit.*), pp. 132 and 143 [Miscellanea Curiosa, pp. 123 and 137–138].
[26] Alois Musil: Palmyrena, *Amer. Geogr. Soc. Oriental Explorations and Studies No. 4*, 1928, p. 44.

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BIBLIOGRAPHICAL NOTE

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This is neither a complete bibliography nor a list of the sources on which the present work is based. Its only purpose is to offer suggestions to readers who desire to follow up any of the subjects touched on in the text.

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Books of travel and description are innumerable, and mostly superficial. Perhaps G. L. BELL, *Syria: the Desert and the Sown* (London, 1907) is as good an introduction as any for a reader who has never seen the country.

2. *History:* A scholarly and complete survey is H. LAMMENS, *La Syrie: précis historique*, 2 vols. (Beirut, 1921). In the modern period it tends to underestimate the achievement of the Arabs and overemphasize the French connexion, but its bias is so obvious as to be easily discounted. There are a large number of detailed studies of special subjects: e.g. R. DUSSAUD, P. DESCHAMPES and H. SEYRIG, *La Syrie antique et médiévale illustrée* (Paris, 1931); E. S. BOUCHIER, *Syria as a Roman Province* (Oxford, 1916), clear and competent; H. LAMMENS: *Études sur le règne du calife omaiyade Moâwia 1er* (Beirut, 1906), *Études sur le Siècle des Omayedes* (Beirut, 1930), and *Le Califat de Yazid 1er* (Paris, 1910), indispensable for the Umayyad period; G. LE STRANGE, *Palestine under the Moslems* (London, 1890), an interesting description, based on the Arab geographers, of what the country must have looked like in the Middle Ages; G. DE MOMBYNES: *La Syrie à l'époque des Mamelouks* (Paris, 1923). To a great extent, however, the curious reader must go for his information to general histories of the ancient East, the Roman Empire, the Arabs, the Crusades and the Ottoman Turks.

For the nineteenth century, there is a useful summary in the Foreign Office handbook *Syria and Palestine* (London, 1920). The Eastern question is fully analysed in E. DRIAULT, *La Question d'Orient* (8th ed., Paris, 1921); the question of Lebanon in

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113 JOUPLAIN, *La Question du Liban* (Paris, 1908), which is full but not always accurate.

Some of the contemporary descriptions and analyses are still valuable as well as entertaining. C. F. VOLNEY, *Voyage en Egypte et en Syrie* (Paris, 1787) is penetrating but somewhat scornful. J. L. BURCKHARDT, *Travels in Syria and the Holy Land* (London, 1822) shows the country as it was immediately before Western penetration began. C. H. CHURCHILL, *Mount Lebanon* (3 vols., London, 1853) and *The Druzes and the Maronites under Turkish Rule* (London, 1862) are based upon great personal experience and intimate knowledge.

3. *The Religions of Syria and Lebanon:* F. J. BLISS, *The Religions of Modern Syria and Palestine* (New York, 1912) is authoritative and sympathetic but better on the Christian than on the Moslem Sects. On Islam there is of course an immense literature, to which H. LAMMENS, *Islam, beliefs and institutions* (English translation, London, 1929) may serve as an introduction; it has a good bibliography. Good essays on Islamic civilization will be found in T. ARNOLD and C. GUILLAUME (ed.), *The Legacy of Islam* (Oxford, 1931). H. A. R. GIBB (ed.), *Whither Islam?* (London, 1932) is a study of the present position of Islam. *The Encyclopaedia of Islam* (Leiden, 1913-1936) has articles, most of them good and reliable, on specific subjects.

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A. S. TRITTON, *The Caliphs and their Non-Muslim Subjects* (London, 1930) describes the position of the Christian communities under Moslem rule.

4. *Arab Nationalism:* It is hardly possible to understand Arab nationalism without knowing something of Arab history and society. The facts of Arab history are conveniently gathered together in P. K. HITTI, *History of the Arabs* (2nd ed., London, 1940); its underlying principles have been expounded for all time by IBN KHALDUN in his *Muqaddamah* (French translation, *les Prolegomènes*, trans. M. G. de Slane, Paris, 1862-1868). The unsurpassable description of the society of the Arabian Desert is of course C. M. DOUGHTY, *Travels in Arabia Deserta*, 2 vols. (2nd ed.; London, 1921).

G. ANTONIUS, *The Arab Awakening* (London, 1938) is the authoritative study of the history of the Arab nationalist movement

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from its beginning almost until the present day; its early chapters are of particular importance. The description of Arab Nationalism in the first part of T. E. LAWRENCE, *Seven Pillars of Wisdom* (London, 1935) is a marvellous poetic construction, but not always to be accepted without reserve. There is a profound philosophical analysis of the movement in W. E. HOCKING, *The Spirit of World Politics* (New York, 1932); and a more superficial but nevertheless interesting one in the works of H. KOHN, *A History of Nationalism in the East* (English translation, London, 1929) and *Nationalism and Imperialism in the Hither East* (English translation, London, 1932). The sociological basis of the Arab Movement is brilliantly illuminated by H. A. R. GIBB in two essays in P. W. IRELAND (ed.), *The Near East: Problems and Prospects* (Chicago, 1942). The same author has analysed the modern Arabic literary movement in *Studies in Contemporary Arabic Literature* (*Bulletin of the School of Oriental Studies*, London, vols. IV, pp. 745-60, V, pp. 311-22, 445-66, and VII, pp. 1-22).

The student of Arabic nationalism must give particular attention to the Zionist problem in Palestine. The question is expounded with balance, clarity and insight in the *Report of the Royal Commission on Palestine* (Cmd. 5479, London, 1937), one of the most remarkable of Blue Books. There is a very interesting sociological analysis in W. K. HANCOCK, *Survey of Commonwealth Affairs*, vol. I (London, 1937). The causes of Arab Opposition to Zionism are made clear in the work of G. ANTONIUS, mentioned above. The nature and history of Zionism can be studied in a large and brilliant literature. A good introduction is PAUL GOODMAN (ed.), *The Jewish National Home* (London, 1943). The standard History is A. BÖHM, *Die Zionistische Bewegung* (2nd ed., Berlin, 1935). The spirit of the movement can be gathered from T. HERZL, *Tagebücher* (3 vols., Berlin, 1922-1923) and S. LEVIN, *Youth in Revolt* (English translation, London, 1930). There is an essay on "The Jews" in L. B. NAMIER, *Conflicts* (London, 1942) which is most remarkable for its depth of thought and feeling.

5. *The French Connexion:* The history of France's relations with Syria and Lebanon may be found in F. CHARLES-ROUX, *La France et les Chrétiens d'Orient* (Paris, 1939) and R. RISTELHUEBER, *Les Traditions Françaises au Liban* (Paris, 1918). A. LAMARTINE, *Voyage en Orient* (4 vols., Paris, 1835) is important both in itself and because of its effect on the French imagination. M. BARRÈS, *Une Enquête aux pays du Levant* (Paris, 1923) is of no great value as history, but an interesting and important example of French sentiment about Syria and Lebanon.

H. LAMMENS, *La Syrie* (see 2 above) also contains full information on this subject.

6. *The Peace Settlement, 1918-1922:* H. W. V. TEMPERLEY

11: Hourani S-4 (no date) 1946 MD1 Syria MD/

113 (ed.), *History of the Peace Conference*, vol. VI (London, 1924) is fair and accurate, but written too soon after the events to be definitive. G. ANTONIUS, *The Arab Awakening* (see 4 above) is very good on the war-time promises and post-war settlement, and contains a number of important documents. D. LLOYD GEORGE, *The Truth about the Peace Treaties*, vol. II (London, 1938) places the Syrian question in its context of Anglo-French relations. H. N. HOWARD, *The Partition of Turkey* (Norman, 1931) is a useful work of reference. R. DE GONTAUT-BIRON, *Comment la France s'est installée en Syrie* (Paris, 1923), gives the French version of the quarrel with Faisal.

7. *Syria and Lebanon under the French Mandate:* The standard work on Mandates is Q. WRIGHT, *Mandates under the League of Nations* (Chicago, 1930). P. W. IRELAND, *Iraq, a Study in Political Development* (London, 1937) is an interesting description of the application of the system in a neighbouring country.

For the events of the years of Mandatory rule, the most important work of reference is the French Government's annual *Rapport à la Société des Nations sur la situation de la Syrie et du Liban*, 1924-1939, a valuable source of information on all aspects of the French administration, and indispensable although perhaps not always candid. The *Minutes* of the Permanent Mandates Commission 1921-1938, contain interesting discussions of French policy. There are brilliant and accurate studies of French relations with Syria and Lebanon in A. J. TOYNBEE, *Survey of International Affairs*, *1925*, vol. I (London, 1927), *1928* (London, 1929), *1930* (London, 1931), *1934* (London, 1935), *1936* (London, 1937), *1938* (London, 1941). No less valuable is the monthly periodical, *Oriente Moderno* (Rome, 1921-), which contains full summaries of current events, texts of important documents and special articles of great worth; no work on Arab politics could be written without the help of this scholarly and informed journal.

The best statement of the Nationalist case against France is to be found in E. RABBATH, *Unité Syrienne et Devenir Arabe* (Paris, 1937), a work of mature thought and study. There is an interesting discussion of French policy in G. HENRY-HAYE and PIERRE VIENOT, *Les Relations de la France et de la Syrie* (Centre d'Etudes de Politique Etrangère, Paris, 1939).

8. *The Economic System:* The French Government's Annual Reports to the League of Nations (see 7 above) have valuable sections on economic development and statistical appendices. S. B. HIMADEH (ed.), *Economic Organisation of Syria* (Beirut, 1936) and *The Monetary and Banking System of Syria* (Beirut, 1935), are accurate and painstaking compilations, the indispensable groundwork of future researches. A. LATRON, *La Vie Rurale en Syrie et au Liban* (Beirut, 1936) is an original and accurate study.

Halaf, Tell Ahmar and Arslan Tash. The wonderful statues from Mari are more nearly life-size. There are also a great many objects from Ras-Shamra (Ugarit) and Mari which well repay examination. The present building is old and ill-fitted for use as a museum as regards both lighting and the size of the rooms. There are plans, however, for the building of a new museum where there will be ample room and the necessary facilities to display the collections to full advantage.

At the present time, there are local museums at Suweida and Palmyra. The former contains an interesting collection of basalt sculpture and mosaics; the latter is scarcely more than a depository crowded with statues and stone inscriptions. The Directorate of Antiquities intends to establish other small museums at Deir-es-Zor, Homs, Hama, and Tartus or Latakia. It is hoped to provide them with a library, where the principal publications relating to the region covered, together with a few general historical and archaeological works, would be available. The existing library at Damascus is extremely useful, but the one at Aleppo would be improved by the acquisition of some additional works.

In conclusion, the following list gives the titles of a few works relating to the collections referred to above:

ABDUL-HAK, S., "L'exposition au musée de Damas des découvertes archéologiques de l'année 1951", *Museum*, vol. VII, 1954 (not yet published).

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PEARSON, H. F., *A guide to the synagogue of Dura-Europos*, Beirut, 1939.

PLOIX DE ROTROU, G., *Le musée national d'Alep*, Aleppo, 1951.

SAOUAF, S., *Alep, guide du visiteur*, Aleppo, 1951, p. 26-33.

MEANS OF PUBLICIZING MONUMENTS AND PRESENTING THEM TO BEST ADVANTAGE

The efforts made by the Syrian Directorate of Antiquities to promote the study and preservation of historical monuments might yield even better results if they were more widely understood and supported. By means of intelligent propaganda through the three channels of education, tourist development and town planning, it should be possible gradually to arouse general sympathy and interest. The important point is to show clearly that historic monuments are not merely an outdated and costly burden, but have a positive and lively interest for every individual. A publicity campaign on these lines has already been successfully undertaken, but in certain respects it might be amplified and developed.

In the field of education, interest in the country's artistic assets can be aroused by the distribution of illustrated publications and the organization of exhibitions and lectures. There are already some publications of this kind dealing with Damascus, Palmyra, Bosra and Aleppo and more could easily be produced; they should contain fine photographs and be translated into several languages. After organizing a few exhibitions of paintings and a brilliant ceremony to mark the opening of the Qasr el-Heir galleries in the Damascus Museum, the Directorate of Antiquities has recently made a conclusive experiment in this field. It has organized a wonderful exhibition of treasures discovered at archaeological sites in Syria during 1952, which has met with well-deserved success. We ourselves

361 We shall have to consider town planning in greater detail
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In connexion with Damascus and Aleppo. For the moment, we would merely deplore the fact that the authors of extension and development plans are all too apt to write off ancient monuments as undesirable, instead of considering them as some of the finest and most attractive focus-points around which to replan districts. The preservation and enhancement of these buildings need be no bar to a city's normal development. They merely raise problems which should always be studied in consultation with qualified experts or cited to the Directorate of Antiquities. If the work is done with good taste, it will help not only to interest a few scholars anxious to learn more of the past, but to develop a love of their monuments in the inhabitants themselves, as they come consciously or unconsciously to appreciate their beauty, and, in a short time, take them as an essential and familiar ornament to their daily life.

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361 from time to time, onto vistas of monuments—such as the beautiful minarets of the Hisham Mosque and the Madanet el-Qali, and the façades and domes of the Sibaiya Madrasah and the Dervish-Pasha and Sinan-Pasha mosques—which serve as landmarks.

We might well go on to consider the special interest and characteristics of the suburbs of the meidan (with the fine Bab-Saghir cemetery), Suq-Sârouja and Salihiyah, but we dwelt on this subject at some length in describing their history, and there would be no point in repeating our remarks on the importance of preserving the characteristic atmosphere of these places.

Finally, in order to avoid any possibility of misunderstanding, we should like once more to draw the attention of young town planning experts, who lay so much store by wide, straight streets, to the importance of preserving the picturesque, as we have advocated, and of catering for the tourist trade which, for a city with so rich an artistic heritage, is a considerable potential source of income.

There are, in our opinion, few other towns of comparable romantic and picturesque appeal. But we must make it clear that when we use the term "picturesque" we have in mind something which, though apparently haphazard, in fact possesses a beauty and logic of its own, since it has grown up spontaneously and naturally as the outcome of an earlier age and the reflection of a wealth of life and feeling. This explains why the various parts combine so naturally and necessarily. This quality of the "picturesque", which we believe should be preserved and enhanced, is not to be confused with the results of neglect, carelessness and dirt.

As regards the tourist trade, we do not, of course, advocate sacrificing the life and development of a city and subordinating its whole disposition to the tastes of foreigners in search of the novel and exotic. We simply wish to point out that the desire to attract tourists may provide an incentive to set off to best advantage those features of a town which truly deserve to be generally known, admired and appreciated.

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We are glad indeed to be able to associate ourselves with the recommendations and reservations in the report accompanying the scheme of improvements adopted by the municipality. A point we wish to stress is the need to add to the staff of the town planning services specialists (or the commission mentioned earlier), able to translate into practical terms what, in the actual plan, is suggested but not set out to the last detail. 361

The experience gained from the building of the new seraglio, with the ill-advised roadworks involving the destruction of the Matbakh el-Ajami (described by J. Sauvaget as "the only relic of this order existing in the Moslem East") and the mutilation of the Khan Al-Wazir ("a noteworthy collection of buildings, said to be the finest khan in Aleppo") should counsel prudence. Any work involving interference with the old quarters should be preceded by the closest study of the various factors which have gone to make them what they are. We hope it will prove possible to avoid any further disfigurement of the Khan Al-Wazir for the purpose, already announced, of compensating the property owners who have suffered loss through the widening of the street with plots carved out of the courtyard area. Anything of the kind would have the worst effect on the fine architectural balance of the khan and would be in flagrant contradiction to the principles set forth above.

The point to be remembered is that any plan for the expansion of a town must serve to lay down lines of future development which will guarantee harmony, giving due weight to all things of importance to the community. It would be useless and harmful if such a plan were carried out only in part, to serve special interests and for immediate profit.

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361 of the Caliph Al-Mutasim has been found there, besides frag-
172 ments of stucco work, frescoes, glassware and glazed ceramics. This is but a part of a very large built area which will be systematically explored.

A word must also be said of Mari (Tell Hariri), another town on the river, which, 3,000 years before Dura, occupied a comparable position some 25 miles further south; everyone has heard of the extraordinary treasures found there since 1932 by the French mission under A. Parrot, which include statues, jewellery, mother-of-pearl mosaics and inscribed tablets. These are preserved at Aleppo and the Louvre and the most recent finds are at present on view in the exhibition at the Damascus Museum. Other notable sites are the triangular fortifications of Halibiyeh, the ancient Zenobia, built in Roman times, with its serried chain of towers, to guard the narrow pass running along the Euphrates at the foot of a high basalt cliff, and Meskené, the ancient Emar, with its high brick minaret, at the junction of the route from Antioch and Aleppo with the river valley.

The Mesopotamian method of building with sun-dried brick, which was more or less generally employed, and the extent and isolation of the sites make it questionable whether it would be worth while to undertake costly maintenance and consolidation work. At Mari, Dura and Raqqa the treasures found are of greater interest than the buildings; once the excavations have been completed, plans drawn and photographs taken, the ruins can be left to their fate. It will then be the task of museums and publications to make them live once more.

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172 658 liers, which, since its restoration in 1936 (involving the removal of the village built within the ramparts and the repairing of the terraces) had suffered considerable damage. The new work of restoration included the rebuilding of walls, the repairing of vaults, the reconstruction of a stairway that had collapsed, and the replacing of the missing parts of the windows and doorways in the portico of the great hall. But other misfortunes are continually occurring: a tower is struck by lightning; plants grow upon the glacis. It is constantly necessary to set to again—and the castle concerned is only one of many.

We are well aware of the great interest which the Directorate of Antiquities is taking in this matter and of its determination to continue its efforts; it is deserving of the highest praise. It would be well, however, if the skilled technicians in charge of the work could have the advice of competent specialists whenever some delicate piece of architecture is in need of repair. The same applies to the present restoration of the minaret of the Great Mosque at Aleppo.

172 We are also of the opinion—and this is our second observation—that this work would be easier and less burdensome if the tourist attraction of these magnificent buildings were taken into account. At present they are almost inaccessible, as is shown by the ridiculously small number of visitors (the average is less than 120 a month at the Krak). The Krak or Marqab can be reached only by jeep and it is impossible to travel the whole distance to Sahyun by road. Nevertheless, there were once tracks leading to these castles and they simply need a few miles of repair and regular upkeep thereafter. If that were done, there is no doubt that there would be a tremendous increase in the number of tourists, and considerable funds for the work of restoration could be derived from admission fees.

From this point of view, the region offers real advantages which it would not be difficult to exploit. It is quite near the sea and, if the road were better, a visit to the Krak could be included in the programme of the numerous cruises calling along this coast, which already visit Baalbek and Damascus. The establishment of a suitable hotel at Tartus would make it possible for travellers with the necessary time at their disposal to make interesting excursions to Ruad, Safita and Marqab, just as they can from Latakia to Jebla, Ras-Shamra and Sahyun. This would also be a good opportunity of restoring the church at Tartus, which is at present being used by the municipality as a storehouse. Moreover, if a rest-house were fitted up inside the Krak it would be easier to visit the castle from Tartus, Tripoli, Homs, Hama or even Damascus.

This would permit the successful development of a region whose natural beauties vie in attraction with its incomparable monuments, to the advantage not only of the local population but of the country as a whole.

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houses among the ancient buildings. These houses should be removed and the monuments should be consolidated and restored. It is not at all certain that the plan adopted by the authorities for the improvement of this site meets all these needs or gives sufficient attention to the appropriate presentation of the principal monuments.

In conclusion, we must draw attention to the quite outstanding interest of the great group formed by the Roman theatre and the Arab citadel. The two buildings, equal in beauty, are intimately connected. The thirteenth-century ramparts, with their great square towers and rustic work, encircle the cavea of the theatre, while a building intended as a storehouse, consisting of three storeys of great vaulted rooms, one above the other, has been built on the orchestra. The Directorate of Antiquities has recently carried out large-scale excavation work to clear the tiered seats and the stage as far as possible. We feel that bolder action is necessary and that the huge block of masonry obstructing the interior of the caves, which is of no great interest in itself, should be demolished. This would restore a splendid ancient monument in its entirety, without serious detriment to the Moslem citadel. The Roman theatre at Bosra is one of the largest, most beautiful and most complete of those that still remain. Moreover, it has a number of noteworthy features, in the structure of the sloping arches supporting the tiers, the arrangement of the small stairways leading to the latter, and the wonderful ornamentation of the *frons scenae*. The towers of the Arab citadel are also a magnificent example of medieval military architecture. If the work we have suggested were done, both buildings, instead of detracting from each other as they do at present, would be seen to greater advantage. Together, they would be an outstanding attraction for tourists.

The region of Bosra and the Jebel Druse, which can be reached quite easily from Damascus, should be much better known. The establishment of a rest-house inside the citadel of Bosra itself and the improvement of accommodation facilities at Suweida would involve little cost and make visits much easier.

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under a Christian governor. Already for one generation, after the interruption caused by the Napoleonic Wars, missionaries from Western Christendom had been laying the foundations of an intellectual revival—chiefly among the Lebanese Christians, but also in the Syrian cities; and the foundation in 1866 of the Syrian Protestant College (renamed in 1920 the American University of Beirut) is a landmark in the early history of Arab nationalism. Religious minorities thus acquired the habit of looking to some Western patron for material support and for protection against the majority of their neighbours and their governors; thus the Maronites depended on France, the Orthodox on Imperial Russia, the local Jews on the Alliance Israélite and on Britain, the Protestants on the United States, Britain, or Germany. Emigration to the Americas or Europe further opened the cultural windows of Christian Lebanon and emigrants to Egypt founded there a modern Arabic literature, while the granting of public utility concessions, especially for railways, to French companies and others increased the Western interest in the country.

In the first decade of the twentieth century, the Young Turks, who were at first supported by the leaders of the early Arab nationalism, rose to power; but it soon became apparent that the Young Turk was to be as much a despot as the Sultan. The Arab intelligentsia of Beirut and Damascus chose, therefore, to look to the Western Powers for support[1]—a decision which they may well now be regretting. The Ottoman Governor of Syria, Jamal Pasha, carried out a drastic 'purge' of the urban nationalist leaders in 1916, but the nationalist cause had been taken up at a safer distance by the Sharif Hussain of Mecca and his sons Faisal and Abdullah, who had been in correspondence with the British authorities in Egypt since before the outbreak of the First World War.[2] Their Arab Revolt was a response to Jamal Pasha's purge and the prospect of similar measures in the Hejaz. Brilliantly organized by Colonel T. E. Lawrence, it effectively harassed the left wing of the Ottoman front on the desert margin while Allenby was breaking the main resistance in the Palestine campaign. When the Ottoman front collapsed after the British victory at Megiddo, a small body of Arabs from the Amir Faisal's army were the first to reach Damascus. Faisal was given authority by General Allenby over all territory east of the Jordan, down to Aqaba, but by the Arabs he was regarded rather as an independent amir on the throne of the Umayyads. However, Faisal had scarcely appoint-

[1] See George Antonius, *The Arab Awakening* (London, Hamilton, 1946).
[2] For this section see above, pp. 17–18.

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